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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,518	07/23/2007	Holger Beyer-Steinhauer	HM-747PCT	1682
40570	7590	09/18/2009	EXAMINER	
FRIEDRICH KUEFFNER 317 MADISON AVENUE, SUITE 910 NEW YORK, NY 10017				KERNs, KEVIN P
ART UNIT		PAPER NUMBER		
1793				
MAIL DATE		DELIVERY MODE		
09/18/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/591,518	BEYER-STEINHAUER ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Kevin P. Kerns	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 01 September 2006 and 23 July 2007.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-14 is/are rejected.
- 7) Claim(s) 3 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 01 September 2006 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/1/06</u> .  | 6) <input type="checkbox"/> Other: _____ .                        |

## DETAILED ACTION

### ***Specification***

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

In this instance, the abstract is not on a separate sheet (the abstract is only a minor portion of the front page of WO 2005/084841 A1), includes the legal terms "comprising" and "whereby", and recites a phrase that can be implied "The invention relates to a", which should be replaced by "A".

2. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.

- (f) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

In this instance, the specification lacks section headings.

3. The use of the trademark CyberLink has been noted in this application (see page 5, 6<sup>th</sup> line, of specification). It should be capitalized wherever it appears and be accompanied by the generic terminology. Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

#### ***Claim Objections***

4. Claim 3 is objected to because of the following informalities: in the 5<sup>th</sup> line of the claim, replace "oprational" with "operational". Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to independent claims 1 and 12 (and a portion of claims dependent therefrom), these claims are generally narrative in format. For example, independent method claim 1 does not include distinct process steps, such that a specific process of operating the support rolls of the continuous casting machine cannot be clearly determined. In addition, dependent claims 2-11 that relate to the calculational aspects of these process claims do not distinctly show the steps as to how these calculations are carried out to facilitate the operation of the continuous casting machine. Also, independent claims 1 and 12 include “consists of” (4<sup>th</sup> lines) and "and/or" (5<sup>th</sup> lines), of which these terms are in conflict with each other since “consists of” is a “closed” (i.e. specific) term, and "and/or" is an “open” (i.e. optional) term. In these instances, it is believed that the phrase “consists of” should be replaced with “comprises”. Furthermore, the indefinite phrase “consist at least of” in independent claim 12 should be revised in accordance with the above suggestion.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat.

App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

In the present instance, independent claims 1 and 12 recite the broad recitation "liquid metals", and the claims also recite "especially liquid steel materials" which is the narrower statement of the range/limitation.

With regard to independent claims 1 and 12 (and a portion of claims dependent therefrom), it is noted that there are numerous instances of improper antecedent basis that should be corrected by amendments. Some examples of improper antecedent basis (in claims 1-3) are as follows:

Claim 1 recites the limitation "the support rolls" in the 1<sup>st</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "the continuously cast strand" in the 4<sup>th</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "the drives" in the 7<sup>th</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim. In this instance, it is suggested to replace "the" with "all" before "drives".

Claim 1 recites the limitations "the normal force", "the torque distribution", and "the specific load capacity". There is insufficient antecedent basis for these limitations in the claim.

Claim 2 recites the limitations "the specific load capacity", "the ferrostatic head", and "the roll separation". There is insufficient antecedent basis for these limitations in the claim.

Claim 3 recites the limitations "the current contact forces", "the piston cylinder units", "the casting format", and "the automatic load balance control system". There is insufficient antecedent basis for these limitations in the claim.

The applicants are suggested to review the remaining claims 4-14 for antecedent basis errors of the nature listed above for claims 1-3.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1 and 12-14 insofar as definite (in view of the 35 USC 112, 2<sup>nd</sup> paragraph rejections) are rejected under 35 U.S.C. 102(b) as being anticipated by JP 2003-33854 (cited in applicants' Information Disclosure Statement dated 9/1/06 with a copy of the abstract only – a complete copy of the Japanese document is provided with this Office Action).

Regarding independent claims 1 and 12, JP 2003-33854 discloses equipment for controlling compressive force of slabs installed in a continuous casting machine and a method of its use (abstract; and Figures 1, 7, and 8), in which both the apparatus and method is operable for monitoring the support rolls to ensure high quality of a cast slab. JP 2003-33854 discloses a cast slab to be produced by support rolls, wherein the support rolls form a strand guide for continuously guiding the cast strand, and the strand guide comprises support rolls, adjustable roll segments, and a load balance control system (Figures 1 and 7). The load balance control system calculates the casting speed, motor torque, and speed, as well as standard correction factors (abstract), in which the total driving torque for the drives is determined from the normal force of the driven drive support (abstract; and Figure 8).

Regarding claims 13 and 14, the device of JP 2003-33854 is capable of performing the required function based on a controller (computing unit) in cooperation with various input variables set forth in claims 1 and 12 (abstract; and Figure 8).

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 2-11 insofar as definite (in view of the 35 USC 112, 2<sup>nd</sup> paragraph rejections) are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2003-33854.

Regarding claim 2, JP 2003-33854 is silent in the aspect of calculating the specific load capacity determined by geometry of the strand guide, ferrostatic head, and roll separation. However, it would have been obvious to control the support rolls by inputting these values into the control system (computing unit) to get more accurate calculations, since these factors are crucial to a continuous casting process (abstract; and Figure 8).

Regarding claims 3-11, JP 2003-33854 is silent to the various calculations relating to force, torque, and speed variables. However, it is obvious to have these variables inputted into the control system (computing unit), in order to get an accurate reading of the system prior to adjusting the support rolls (abstract; and Figure 8).

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin P. Kerns whose telephone number is (571)272-1178. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jessica Ward can be reached on (571) 272-1223. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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September 11, 2009